STOMATOPOD CRUSTACEANS FROM PHUKET AND THE ANDAMAN SEA

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ABSTRACT

The Stomatopoda of Phuket, Thailand, is surveyed based on collections made principally by the Phuket Marine Biological Centre BIOSHELF Cruises. Forty-eight stomatopod species are recorded from Phuket. Twenty-eight species are new records for Phuket, including *Carinosquilla spinosa* sp. nov. Eleven species newly reported from Phuket are also new records for the Andaman Sea, an increase of 16%. *Faughnia formosae*, *Gonodactylellus annularis*, *Oratosquillina manningi*, *Oratosquillina ornata*, *Levisquilla jurichi*, *Clorida gaillardi*, *Cloridina pelamidae*, and *Coronidopsis serenei* are reported outside of the Pacific Ocean for the first time. Eighty-one stomatopod species in 11 families and five superfamilies are now known from the Andaman Sea, representing almost 60% of the Indian Ocean fauna. A checklist of the stomatopods of the Andaman Sea is given.

INTRODUCTION

Knowledge of the stomatopod fauna of the northern Andaman Sea is largely derived from the studies of Wood-Mason (1875), Kemp (1913), Kemp and Chopra (1921) and Tiwari and Biswas (1952), each of whom worked principally with collections now housed in the Zoological Survey of India. The stomatopod fauna of Phuket and surrounding Thai waters is known principally from a study made by Dingle et al. (1977), supplemented by Manning (1987, 1989, 1998). Dingle et al. (1977) reported 15 species from Phuket, comprising mostly coral-reef gonodactyloids. Additional species were reported from Phuket and the adjacent Andaman Sea by Manning (1979), and Naiyanetr (1987, 1989, 1998). Dingle et al. (1977) reported 15 species from Phuket, comprising mostly coral-reef gonodactyloids. Additional species were reported from Phuket and the adjacent Andaman Sea by Manning (1979), and Naiyanetr (1987, 1989). To date, 20 species of stomatopod have been recorded from Phuket. The present report is based primarily on collections made by the Phuket Marine Biological Centre BIOSHELF Cruises, supplemented by smaller collections made by various workers. These results more than double the known fauna from Phuket to a total of 48. The

known stomatopod fauna of the Andaman Sea is increased to 81 species in 11 families and five superfamilies.

MATERIALS AND METHODS

Synonymies are restricted to the original citation, primary synonyms and references relevant to the Andaman Sea. All measurements are in millimetres (mm). Terminology and size descriptors generally follow Manning (1969b, 1977, 1978d) and Ahyong (1998). Total length (TL) is measured along the midline from the apex of the rostral plate to the apices of the submedian teeth of the telson. Carapace length (CL) is measured along the midline and excludes the rostral plate. Corneal index (CI) is given as 100CL divided by corneal width. Other abbreviations: antennule (A1), antenna (A2), abdominal somite (AS), maxilliped (MXP), median (MD), intermediate (IM), lateral (LT), marginal (MG), submedian (SM), thoracic somite (TS).

Specimens are deposited in the Phuket Marine Biological Centre (PMBC); Australian Museum, Sydney (AM); Chulalongkorn University Museum...
of Zoology (CUMZ); Queensland Museum, Brisbane (QM); Zoological Reference Collection, Raffles Museum, National University of Singapore (ZRC); National Natuurhistorisch Museum, Leiden (NNM); and National Museum of Natural History, Smithsonian Institution, Washington D.C. (USNM).

TAXONOMY

**Eurysquilloidea** Manning, 1977

**Eurysquillidae** Manning, 1977

*Coronidopsis serenei* (Moosa, 1973)

*Coronidopsis serenei* Moosa, 1973: 2, 5, fig.1 [type locality: off Elat Bay, Tjut Island, Kai Islands, Indonesia, 5°40´S, 132°59´S, 70m].– Manning and Garcia, 1982: 595, figs. 1e, f, 2, 3.

**Material examined**

PMBC 16039, 1 female, TL 28 mm, off Phuket, BIOSHELF St. G2, 08°00´N, 098°10´E, SM, 63 m, muddy-sand, coll. S. Bussarawit and C. Aungtonya, 23.04.1996.

**Measurements**

Female (*n* = 1) TL 28 mm.

**Remarks**

The specimen agrees well with the accounts of Moosa (1973) and Manning and Garcia (1982). As with specimens of *Coronidopsis* reported by Manning and Garcia (1982), the present specimen was taken on muddy-sand.

**Distribution**

Northern South China Sea, Indonesia, the Philippines and now the Andaman Sea.

*Manningia australiensis* Manning, 1970

*Manningia australiensis* Manning, 1970: 78, fig. 1 [type locality: off Gillett Cay, Swain Reefs, Australia, 21°40´S, 152°15´E].

*Manningia thorsoni* Naiyanetr 1987: 239, figs. 2, 3; 1998: 122 [type locality: Airport Beach, Phuket].

*Manningia vinogradovi* Makarov, 1978: 183, fig. 4 [type locality: Gulf of Tonkin, Vietnam, 20°11.5´N, 113°02´E].

**Material examined**

NNM S1042, 1 male, TL 20 mm, Airport Beach, Phuket, 20 m, grab, coll. J. Hylleberg, 15.12.1980 (holotype of *Manningia thorsoni* Naiyanetr).

**Measurements**

Male (*n* = 1) TL 20 mm.

**Remarks**

Previously reported from Phuket by Naiyanetr (1987; 1998) as *M. thorsoni*. The holotype and paratype of *M. thorsoni* were both collected by grab at depths between 18 and 20 m. The paratype was collected from a substrate of ‘clay, coarse sand to gravel’ (Naiyanetr, 1998).

**Distribution**

New Caledonia, Australia, Vietnam, and Phuket, Thailand.

**Gonodactyloidea** Giesbrecht, 1910

**Gonodactylidae** Giesbrecht, 1910

*Gonodactylaceus falcatus* (Forskål, 1775)

*Cancer falcatus* Forskål, 1775: 96 [type locality: Red Sea].

*Gonodactylus chiragra* var. *mutatus* Lanchester, 1903: 450 [type locality: Furnadu Velu, Miladummadulu Atoll, Maldives Islands, 6°00´N, 73°10´E].

*Gonodactylus glaber* var. *rotundus* Borradaile, 1907: 211–212, pl. 22: fig. 2 [type locality: Coetivy, Seychelle Islands, 7°08´S, 56°16´E, and Zanzibar, 6°10´S, 39°12´E].

Remarks
Dingle et al. (1977), Manning (1978a) and Naiyanetr (1998) reported *G. falcatus* (as *G. mutatus*) from Phuket. Dingle et al. (1977) reported the species from coral rubble habitats.

Distribution
Western Indian Ocean to Phuket, the Gulf of Thailand, Vietnam and the central Pacific.

*Gonodactylaceus ternatensis* (de Man, 1902)

*Gonodactylus glabrous* var. *ternatensis* de Man, 1902: 914 [part, type locality: Ternate, Indonesia, 0°48’N, 127°20’E].

*Gonodactylus ternatensis*.– Dingle et al., 1977: 14–15, fig. 8a, b.– Manning, 1978a: 10–12, figs. 7, 8, 13.– Naiyanetr, 1980: 44.


Remarks
Dingle et al. (1977) and Manning (1978a) reported *G. ternatensis* from live coral habitats at Phuket.

Distribution
Japan, Samoa, New Caledonia, the Philippines, and Vietnam to Phuket, Thailand.

*Gonodactylellus affinis* (de Man, 1902)

*Gonodactylus chiragra* var. *affinis* de Man, 1902: 912 [type locality: Ternate, Indonesia, 0°48’N, 127°20’E].

*Gonodactylus chiragra* var. *confinis* de Man, 1902: 912, pl. 27, fig. 66 [type locality: Ternate, Indonesia, 0°48’N, 127°20’E].

*Gonodactylus chiragra* var. *segregatus* a Lanchester, 1903: 448, pl. 23, fig. 6 [type localities: Goidu, Goifurfehendu Atoll, Maldives; Hulule, Male Atoll, Maldives; South Nilandu Atoll, Maldives; Minikoi, Laccadive Islands; Macclesfield Bank, South China Sea].

*Gonodactylus chiragra* var. *segregatus* b Lanchester, 1903: 448, pl. 23, fig. 7 [type localities: North Male Atoll and South Nilandu Atoll, Maldives].

*Gonodactylus affinis*.– Dingle et al., 1977: 15, 16, fig. 9d.– Manning, 1978c: 2–4, fig. 1.– Naiyanetr, 1980: 44.


Material examined
PMBC 16040, 1 male, TL 26 mm, off Phuket, BIOSHELF St. E3, 08°32’N, 097°46’E, TD, 79 m, sand with shell fragments, coll. S. Bussarawit and C. Aungtonya, 22.04.1996; PMBC 16041, 1 male, TL 26 mm, off Phuket, BIOSHELF St. H1, 07°44’N, 098°17’E, TD, 32 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996; PMBC 16042, 3 males, TL 11–19 mm, 4 females, TL 9–19 mm, 1 male postlarva, TL 8 mm, 2 female postlarvae, TL 7–8 mm, Racha Noi Island, 20 m, coral rubble, coll. K. Larsen, 14.12.1998; PMBC 16043, 2 males, TL 12–26 mm, off Phuket, BIOSHELF St. E4, 08°30’N, 097°33’E, TD, 74 m, coll. S. Bussarawit and C. Aungtonya, 21.04.1996; AM P60571, 2 males, TL 22–26 mm, off Phuket, BIOSHELF St. H3, 07°45’N, 097°58’E, BC, 70 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996.

Measurements
Males (*n* = 9) TL 11–26 mm, female (*n* = 4) TL 9–26 mm, male postlarva (*n* = 1) TL 8 mm, female postlarvae (*n* = 2) TL 7–8 mm.

Remarks
Previously reported from Phuket by Dingle et al. (1977), and Naiyanetr (1998). Specimens were collected from sand, shell and coral rubble habitats at depths between 20 and 79 m.

Distribution
Western Pacific Ocean to the Philippines, the South China Sea, Vietnam and Thailand (Manning, 1995).

*Gonodactylellus annularis* Erdmann and Manning, 1998

*Gonodactylellus annularis* Erdmann and Manning, 1998: 617–618, fig. 1b [type locality: Kapoposang, Spermonde, Indonesia].
Material examined
PMBC 16044, 3 males, TL 9–12 mm, 2 females, TL 8 mm, Racha Noi Island, 20 m, coral rubble, coll. K. Larsen, 14.12.1998; AM P60570, 1 male, TL 13 mm, Racha Noi Island, 20 m, coral rubble, coll. K. Larsen, 14.12.1998

Measurements
Males (n = 4) TL 9–13 mm, female (n = 2) TL 8 mm.

Remarks
The specimens agree well with the type description (Erdmann and Manning 1998) and represent the first record of the species from the Indian Ocean. As with type series of *G. annularis*, the present specimens were collected from coral rubble.

Distribution
Indonesia and now the Andaman Sea.

**Gonodactylinus viridis** (Serène, 1954)

*Gonodactylus chiragra* var. *viridis* Serène, 1954: 6, 7, 10, 74–76, 87, fig. 13–3 [type locality: Cauda Bay, Vietnam].

*Gonodactylus viridis*.– Dingle et al., 1977: 16–17, fig. 9a–c.– Manning, 1978c: 4, fig. 2a–c.– Naiyanetr, 1980: 44.


Material examined
CUMZ (unregistered), 3 males, TL 32–42 mm, Naiyang Beach, Phuket, coll. P. Naiyanetr, 21.04.1966; USNM (unregistered), 3 males, TL 22–41 mm, 2 females, TL 33–42 mm, Phuket, 0–1.5 m, in shale and coral, coll. R. Caldwell, Aug 1973.

Measurements
Males (n = 3) TL 32–42 mm.

Remarks
Dingle et al. (1977) and Manning (1978c) reported *G. viridis* from Phuket. *Gonodactylinus viridis* is common amongst rubble on coral and rocky reef flats.

**Distribution**
Japan, New Caledonia, the Philippines, and Vietnam to Phuket, Thailand.

**Gonodactylus chiragra** (Fabricius, 1781)

*Squilla chiragra* Fabricius, 1781: 515 [type locality: restricted to Ambon, Indonesia, 3°43’S, 128°12’E, by neotype selection (Manning, 1981a: 217)].

*Gonodactylus chiragra*.– de Man, 1888b: 299 [part].– Kemp, 1913: 4, 11, 147, 155, fig. 2, pl. 9, fig. 107 [part].– Dingle et al., 1977: 17, fig. 10b, c, e.– Naiyanetr, 1980: 43; 1998: 123.

Material examined
CUMZ (unregistered), 2 males, TL 55–63 mm, 1 female, TL 89 mm, Phuket Province, 23.04.1968; CUMZ (unregistered), 3 males, TL 78–81 mm, 1 female, TL 66 mm, Saku Bay, Phuket Province, coral, coll. P. Naiyanetr, 28.04.1968; CUMZ (unregistered), 1 male, TL 69 mm, 1 female, TL 62 mm, Hnai Island, Satun Province, coll. Dumri and Watanachai, 16.01.1966; ZRC 1999.2079, 1 male, TL 88 mm, 2 females, TL 14–82 mm, Phuket, coral reef, coll. P. Ng, Dec 1998; USNM 150798, 4 males, TL 20–81 mm, 3 females, TL 14–75 mm, Phuket, 0–1.5 m, in coral and shale, coll. R. Caldwell, Aug 1973.

Measurements
Males (n = 11) TL 20–88 mm, female (n = 8) TL 14–89 mm.

Remarks
The present specimens of *G. chiragra* were collected on reef flats from cavities in reef rock and amongst coral rubble, especially in the upper intertidal zone. The species was reported from Phuket by Dingle et al. (1977).

**Distribution**
French Polynesia to Japan, Australia, and Indo-Malayan region to the western Indian Ocean.
**Gonodactylus platysoma** (Wood-Mason, 1895)

*Gonodactylus platysoma* Wood-Mason, 1895: 11, pl. 3, figs. 3–9 [type locality: restricted to Society Islands, 17°00’S, 150°00’W, by lectotype selection (Ghosh and Manning, 1988: 654)].

*Gonodactylus chiragra* var. *tumidus* Lanchester, 1903: 447, 456, pl. 23: fig. 1 [type locality: Minikoi, Laccadive Islands (= Lakshadweep), 8°17’S, 73°02’E].

*Gonodactylus chiragra* var. *acutus* Lanchester, 1903: 447, 456, pl. 23: fig. 3 [type locality: Minikoi, Laccadive Islands (= Lakshadweep), 8°17’S, 73°02’E].

*Gonodactylus chiragra* var. *platysoma*.– Kemp, 1913: 4, 11, 147, 162, fig. 1.– Ghosh and Manning, 1988: 654.


**Remarks**

Dingle *et al.* (1977) reported *G. platysoma* from Phuket amongst live intertidal coral.

**Distribution**

French Polynesia to Okinawa and Australia to the western Indian Ocean.

**Odontodactyliidae** Manning, 1980

**Odontodactylus japonicus** (de Haan, 1844)

*Odontodactylus japonicus* de Haan, 1844, pl. 51: fig. 7 [type locality: Japan]; 1849: 255 [text].– Miers, 1880: 116.

*Gonodactylus Edwardsii* Berthold, 1845: 48.

**Material examined**

PMBC 16045, 1 male, TL 90 mm, Andaman Sea, SW of Phuket, BIOSHELF St. PB7–6, 07°43–44’N, 098°36–40’E, trawl, 32 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998; PMBC 16046, 1 male, TL 148 mm, 1 female, broken, CL 27.75 mm, Phuket, fishing port, 40–80 m, coll. P. Ng and P. Davie, Dec 1998; QM25564, 1 male, TL 135 mm, Phuket, fishing port, 40–80 m, coll. P. Ng and P. Davie, Dec 1998; ZRC 2001.1116, 1 female, TL 124 mm, Phuket fishing port, Andaman Sea, coll. S. Chaitiamvong *et al*., Dec 1998; AM P58289, 1 male, TL 124 mm, Phuket fishing port, trawled, coll. P. Ng, Dec 1999.

**Measurements**

Male (*n = 4*) TL 90–148 mm, female (*n = 1*) TL 124 mm.
Remarks
The precise habitat of *O. japonicus* from Phuket is not known, but all specimens were trawled on soft, sandy-mud substrates at depths of 30–40 m.

Distribution
Japan, Australia, the Western Indian Ocean and now from Phuket, Thailand.

*Odontodactylus scyllarus* (Linnaeus, 1758)

*Cancer Scyllarus* Linnaeus, 1758: 633 [type locality: Indonesia].

*Gonodactylus Bleekeri* A. Milne Edwards, 1868: 65, footnote [type locality: Batavia, Indonesia (= Jakarta, 6°10´S, 106°48´E)].

*Gonodactylus elegans* Miers, 1884: 566, 575, pl. 52: fig. b [type localities: Providence Island (9°14´S, 51°02´E) and Providence Reef (9°23´S, 51°03´E), Seychelles].


Remarks
Previously reported from Phuket by Dingle et al. (1977).

Distribution
Western Indian Ocean to the central Pacific.

*Raoulius cultrifer* (White, 1851)

*Gonodactylus cultrifer* White, 1851: 96, pl. 16: figs. 1, 2 [type locality: China].

*Gonodactylus carinifer* Pocock, 1893: 478, pl. 20B, fig. 4 [type locality: Holothuria Bank, 13°25´S, 126°00´E].

*Odontodactylus cultrifer* – Manning, 1967: 18–22, fig. 5.

*Odontodactylus mindanaoensis* Roxas and Estampador, 1930: 94, 115, pl. 4: figs. 1–3 [type locality: Cotabato, Mindanao, Philippines, 7°13´S, 124°15´E].

*Odontodactylus cultrifer* var. *tridentata* Serène, 1954: 6, 7, 8, 72, pl. 6: figs. 7, 8 [type locality: Nhatrang Bay, Vietnam].

Material examined

Measurements
Males (*n* = 8) TL 79–105 mm.

Remarks
Like *O. japonicus*, *R. cultrifer* was trawled on soft, sandy-mud substrates.

Distribution
Reported from Japan, to Australia and Vietnam (Manning, 1995), the Gulf of Thailand (Naiyanetr, 1980; 1998), southern Malacca Strait (Kemp and Chopra, 1921), and now from Phuket.

*Protosquillinae* Manning, 1980

*Haptosquilla glyptocercus* (Wood-Mason, 1875)


*Protosquilla cerebralis* Brooks, 1866b: 22, 72, pl. 14: figs. 2, 3, pl. 16: figs. 2, 3 [type locality: Levuka, Fiji, 17°42´S, 178°50´E].

**Material examined**

**Measurements**
Female \(n = 1\) TL 25 mm.

**Remarks**
Previously reported from Phuket by Dingle et al. (1977). The present specimen was collected from a cavity in intertidal reef rock.

**Distribution**
Andaman Sea to Japan, Vietnam, the Philippines, New Caledonia, the Marshall Islands, Fiji and Australia.

**Haptosquilla tuberosa** (Pocock, 1893)

*Gonodactylus tuberosus* Pocock, 1893: 476, pl. 20B, fig. 2 [type locality: Macclesfield Bank, South China Sea].


*Haptosquilla nefanda*.– Manning, 1969c: 162.

**Material examined**
PMBC 16048, 1 female, TL 22 mm, off Phuket, BIOSHELF St. H3, 07°45´N, 097°58´E, BC, 70 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996.

**Measurements**
Female \(n = 1\) TL 22 mm.

**Distribution**
Philippines, Indonesia, Burma, Nicobar Islands, Andaman Sea and now from Phuket.

**Siamosquilla hyllebergi** Naiyanetr, 1989


**Material examined**
Paratypes: ZRC 1999.0932, male, TL 16 mm, Similan Island, Thailand, 5 m, associated with corals, 14.02.1982; NNM S1098, male, TL 17 mm, Similan Island, Thailand, 5 m, associated with corals, 15.02.1981.

**Remarks**
*Siamosquilla hyllebergi* occupies pre-formed cavities amongst live corals.

**Measurements**
Males \(n = 2\) TL 16–17 mm.

**Distribution**
Known only from the eastern Andaman Sea, Thailand.

**Pseudosquillidae** Manning, 1977

**Pseudosquilla** Dana, 1852

**Pseudosquilla ciliata** (Fabricius, 1787)

*Squilla ciliata* Fabricius, 1787: 333 [type locality: Indian Ocean].

*Squilla stylifera* Lamarck, 1818: 189 [type locality: unknown].

*Squilla quadrirspinosus* Eydoux and Souleyet, 1842: 362, pl. 5: fig 1 [type locality: Sandwich Islands (= Hawaii), 24°00´N, 167°00´E].

*Pseudosquilla ciliata* var. *occidentalis* Borradaile, 1900: 398, 402 [type locality: West Indies].


**Material examined**
CUMZ (unregistered), 2 females, TL 70–71 mm, Phuket Province, coral, coll. S. Sudara, 10.03.1963.
Measurements
Female (n = 2) TL 70–71 mm.

Remarks
*Pseudosquilla ciliata* was reported from Phuket by Dingle *et al.* (1977) and Naiyanetr (1998). The species is common amongst rubble and seagrass on intertidal reef flats.

Distribution
All tropical oceans except the Eastern Pacific.

**Lysiosquilloidea** Giesbrecht, 1910

**Lysiosquillidae** Giesbrecht, 1910

**Lysiosquilla tredecimdentata** Holthuis, 1941

*Lysiosquilla maculata*.– Kemp, 1913: 115, pl. VIII: figs. 86–91 [part, not *Lysiosquilla maculata* (Fabricius, 1793)].

*Lysiosquilla maculata* var. *tredecimdentata* Holthuis, 1941: 273–274, fig. 6 [type locality: Hedjaff, near Aden].


Material examined
ZRC 2001.1119, 1 female, TL 154 mm, Pichai fishing port, Phuket, coll. P. Ng, Apr 1999.

Measurements
Female (n = 1) TL 154 mm.

Remarks
The single specimen agrees well with published accounts (Holthuis, 1941; Manning, 1978b; 1995). The dactylus of the raptorial claws each bear ten teeth and a low tubercle is present on the uropodal protopod adjacent to the endopod articulation. The present specimen was trawled on sandy-mud but Dingle *et al.* (1977) also reported the species from deep burrows on intertidal reef flats.

**Nannosquillidae** Manning, 1980

**Acanthosquilla phalangium** (Fabricius, 1798)


*Coronis acanthocarpus* Claus, 1871: 129 [type locality: Port Essington, Northern Territory, Australia, 11°10´S, 132°08´E].

*Lysiosquilla acanthocarpus* Miers, 1880: 3, 11, pl. 1: figs. 7–9 [type locality: Port Essington, Northern Territory, Australia, 11°10´S, 132°08´E].– Kemp, 1913: 4, 11, 120–122.

*Acanthosquilla sarasinorum* Müller, 1886: 471, 478, pl. 4: fig. 3 [type locality: Trincomali, Ceylon, 8°34´N, 81°14´E].

*Acanthosquilla phalangium*.– Holthuis, 2000: 16, figs. 1, 2.

Material examined
CUMZ (unregistered), 1 male, TL 36 mm, Naiyang Beach, Phuket, 21.04.1966.

Measurements
Male (n = 1) TL 36 mm.

Remarks
The single specimen bears seven teeth on the dactylus of both raptorial claws, although the usual number is five or six (Kemp, 1913). *Acanthosquilla phalangium* is common on intertidal sandflats where it constructs deep, U-shaped burrows. Dingle *et al.* (1977) speculated that *A. phalangium* (as *A. acanthocarpus*) may occur in Phuket, and the present record confirms their suspicion.

Distribution
Western Indian Ocean to the western Pacific including northern Australia. A new record for Phuket.
**Acanthosquilla multifasciata** (Wood-Mason, 1895)

*Lysiosquilla multifasciata* Wood-Mason, 1895: 11–12, figs. 22–24 [type locality: Bombay, India].

*Acanthosquilla multifasciata.*– Dingle et al., 1977: 6, 8, fig. 4a, b.– Naiyanetr, 1980: 42; 1998: 124.

**Remarks**

Dingle *et al.* (1977) reported *A. multifasciata* from Phuket burrowing in intertidal mudflats in the outflows from mangrove streams.

**Distribution**

Western Indian Ocean to Australia and the western Pacific.

**Acanthosquilla tigrina** (Nobili, 1903)


**Material examined**

CUMZ (unregistered), 1 male, TL 30 mm, 1 female, TL 43 mm, Naiyang Beach, Phuket, 21.04.1966; ZRC 1999.2346, 1 male, TL 42 mm, Naiyang Beach, Phuket, 21.04.1966.

**Measurements**

Male (*n* = 2) TL 30–42 mm, female (*n* = 1) TL 43 mm.

**Remarks**

The specimens agree well with Kemp’s (1913) account and figures of the holotype of *A. tigrina*. The number of posterior spines on the sternum varies from 7–10, and the number of teeth on the dactylus of the raptorial claws varies from 9–12. Like *A. phalangium*, *A. tigrina* was collected from intertidal sand flats.

**Distribution**

Borneo, the Gulf of Thailand and now from Phuket, Thailand.

**Parasquilloidea** Manning, 1995

**Parasquillidae** Manning, 1995

**Faughnia formosae** Manning and Chan 1997

*Faughnia formosae* Manning and Chan, 1997: 546–551, figs. 1–4 [type locality: Taiwan].

**Material examined**

PMBC 16049, 1 female, TL 54 mm, Phuket, fishing port, 40–80 m, trawled, sandy-mud, coll. S. Chaitiamvong *et al.*, 08.12.1998.

**Measurements**

Female (*n* = 1) TL 54 mm.

**Remarks**

The specimen agrees well with the type material in the USNM and differs only in having the telson carinae slightly more slender than in the holotype, a feature related to size. The presence of *F. formosa* in the Andaman Sea, previously known only from Japan and Taiwan, represents a significant range extension for the species.

**Distribution**

Japan, Taiwan, and for the first time from Phuket, Thailand.

**Squilloidea** Latreille, 1802

**Squillidae** Latreille, 1802

**Anchisquilla fasciata** (de Haan, 1844)


**Material examined**

PMBC 16050, 1 male, TL 76–81 mm, Phuket, fishing port, trawled, sandy-mud, coll. P. Davie and P. Ng, Dec 1998.
Measurements

Male ($n = 2$) TL 76–81 mm.

Distribution

Western Indian Ocean to Australia, Japan and New Caledonia. A new record for Phuket.

Carinosquilla multicarinata (White, 1849)

Squilla multicarinata White, 1849: 144, pl. 6, fig. 1 [type localities: Nagasaki Bay, Japan, and the Philippines]. – Naiyanetr, 1980: 43.

Material examined


Measurements

Male ($n = 9$) TL 54–80 mm, female ($n = 12$) TL 67–101 mm.

Distribution

Japan to southern India, the Philippines, Thailand and Burma. Reported for the first time from Phuket.

Carinosquilla spinosa sp. nov.

(Fig. 1)


Squilla multicarinata. – Dollfus, 1938: 196, fig. 7 [not Squilla multicarinata White, 1849].

Carinosquilla carinata. – Tirmizi and Manning, 1968: 4. – Moosa and Cleva, 1984: [not C. carinata (Serène, 1950)].

Material examined


Diagnosis

Eyestalk with short, irregular carinae. Ocular scales with bifurcate apices. Rostral plate with long, distinct, MD carina and LT carinae, and several short intervening carinae or elongate tubercles. Carapace with anterior bifurcation of MD carina opening anterior to dorsal pit. Mandibular palp 3-segmented. Raptorial claw dactylus with 6 teeth; merus outer face with longitudinal carina or irregular vermiform sculpture. TS5 dorsal carinae longitudinal or reticulate. TS6–8 and AS1–4 each
with posterior margin between SM carinae armed with 3 or more spines; carinae of normal complement armed posteriorly as follows: SM 1–6, IM 1–6, LT 1–6, MG 1–5. Telson dorsolateral surface numerous supplementary longitudinal carinae, interrupted proximally. Uropodal protopod inner margin with serrations or short spines.

Figure 1 Carinosquilla spinosa sp. nov. Holotype male TL 94 mm (PMBC16054). A, anterior cephalon, dorsal; B, ocular scale, right dorsal; C, A1 somite dorsal process, right lateral; D, carapace, posteromedian; E, raptorial claw, right lateral; F, TS5–8, right dorsal; G, TS5, right lateral; H, TS8 sternal keel, right lateral; I, AS4–6, telson and uropod, dorsal; J, AS6 and telson, ventral; K, uropod, right ventral; L, PLP 1 endopod, right anterior. Scale: A–K = 5 mm, L = 2.5 mm.
**Description**

Eyestalk with short, irregular carinae; CI 418–477. Ocular scales bifurcate.

A1 peduncle 1.01–1.15CL. A1 somite dorsal processes with acute apices, directed anterolaterally. A2 scale length 0.70–0.83CL.

Rostral plate with length and breadth subequal, but appearing elongate; margins convergent; apex rounded to subtruncate; with long, distinct, MD carina and lateral carinae, and short, elongate tubercle lateral to MD carina.

Carapace anterior width 0.39–0.43CL; anterior bifurcation of MD carina opening anterior to dorsal pit.

Raptorial claw dactylus with 6 teeth; merus with longitudinal carina or irregular sculpture on outer face.

Mandibular palp 3-segmented. MXP1–4 each with epipod.

TS6 lateral process with anterior lobe broad, quadrate, apex truncate; posterior lobe broad, triangular; anterior margin straight to sinuous; apex blunt. TS7 lateral process anterior lobe triangular, apex blunt; posterior lobe broad, triangular, anterior margin straight to sinuous; apex blunt. TS8 anterolateral margin triangular, apex blunt; sternal keel rounded.

TS5 dorsal carinae longitudinal or reticulate. TS6–8 and AS1–4 each with 3 or more spines on posterior margin between SM carinae. AS5 with up to 3 posterior spines between SM carinae; with spine adjacent to SM spine; carinae of normal complement armed posteriorly as follows: SM 1–6, IM 1–6, LT 1–6, MG 1–5. AS6 SM carinae tricarinate; laterally and medially with short, irregular carinae and tubercles; sternum with continuous transverse proximal carina, short median and numerous, irregular transverse carinae and tubercles lateral to MD carina; with ventrolateral spine anterior to uropodal articulation.

Telson with length and breadth subequal; prelateral lobe longer than margin of LT tooth, with spiniform apex; dorsolateral surface numerous supplementary longitudinal carinae, interrupted proximally; denticles SM 3–5, IM 7–10, LT 2.

Uropodal protopod outer margin smooth; inner margin with 12–19 serrations or short spines; with minute ventral tubercle anterior to endopod articulation; protopod terminal spines with lobe on outer margin of inner spine rounded, narrower than adjacent spine, proximal margin concave. Exopod proximal segment outer margin with 10–12 movable spines, distalmost not exceeding midlength of distal segment; distal margin 2 ventral spines, outer longest. Exopod distal segment black entirely or on proximal 3/4; length subequal to or shorter than proximal segment; dorsally and ventrally carinate. Endopod dorsally and ventrally carinate.

**Colour in life**

Overall pale grey-brown with dark brown grooves on carapace and posterior margin of thoracic and abdominal somites. Primary teeth of telson with red apices. Terminal spines of uropodal protopod and outer spines of uropodal exopod red. Distal portion of proximal segment of uropodal exopod and central proximal third of distal segment black. Uropodal endopod apex black.

**Measurements**

Male ($n = 8$) TL 68–111 mm, female ($n = 7$) TL 57–102 mm. Other measurements of holotype: CL 20.8 mm, anterior carapace width 8.4 mm, CW 4.5 mm, A1 peduncle 21.7 mm, A2 scale 16.3 mm.

**Remarks**

*Carinosquilla spinosa* sp. nov. closely resembles *C. carinata*, in the carinate eyestalks, colouration and general habitus, but differs in the spination of the thoracic and abdominal somites. In *C. carinata*, the posterior margin between the submedian carinae of AS1–5 is smooth or crenulate, or rarely has 1 or 2 small spinules on AS4–5 based on examination of type material (USNM) and specimens in other collections (ZRC, CUMZ). In *C. spinosa*, however, the posterior margins between the submedian carinae of TS6–8 and AS1–4 are lined with spines, as well as often having 1 or 2 spines lateral to the spines of each submedian carina of the abdomen. The type series of *C. spinosa* shows little variation except in typically size-related, meristic and morphometric features such as the relative size of the eyes (decreasing with increasing size) and number of spines on the inner margin of the uropodal protopod (increasing with increasing size).
Carinosquilla spinosa is presently known only from the Indian Ocean and all previous reports of C. carinata from the Indian Ocean are referable to the present new species. Carinosquilla carinata appears to be restricted to the South China Sea. Thus, the ranges of C. carinata and C. spinosa are apparently discrete, but conceivably could overlap in the Malacca Strait. Although Moosa (1991) reported C. carinata from New Caledonia (and in doing so synonymized C. thailandensis Naiyanetr, 1983, with the latter), his material is composite and referable to one or more additional undescribed species of Carinosquilla (Ahyong, in press). Moreover, C. thailandensis is itself a distinct species (Naiyanetr et al., 2000). All specimens of C. spinosa were trawled on sandy-mud substrates at depths of 30–40 m.

**Distribution**
Indian Ocean, from Madagascar and the Red Sea to Phuket, Andaman Sea.

**Clorida albolitura** Ahyong and Naiyanetr, 2000

Clorida albolitura Ahyong and Naiyanetr, 2000: 317-320, fig. 2 [type locality: Ang Sila, Gulf of Thailand].

**Material examined**
PMBC 16056, 1 female, TL 28 mm, off Phuket, BIOSHELF St. B2, 09°15´N, 097°54´E, TD, 61 m, coll. S. Bussarawit and C. Aungtonya, 17.02.1998; PMBC 16057, 1 female, TL 13 mm, off Phuket, BIOSHELF St. K 20 m, 09°00´N, 099°24´E, BC, 21 m, coll. S. Bussarawit and C. Aungtonya, 06.05.1996; ZRC 1999.2194, 1 female, TL 45 mm, Phuket, Thai–Danish Expedition.

**Measurements**
Female (n = 3) TL 13–45 mm.

**Remarks**
The present species was previously reported as C. latreillei Eydoux and Souleyet, 1842 (e.g. Ingle, 1963; Manning, 1991; 1995), and is widely distributed in the Indo-West Pacific ranging from the Western Indian Ocean to Phuket, Vietnam, and several localities in the western Pacific.

**Clorida gaillardi** Moosa, 1986

Clorida gaillardi Moosa, 1986: 396–399, fig. 9 [type locality: Philippines].

**Material examined**
AM P57961, 1 male, TL 50 mm, Phuket, Thai–Danish Expedition; CUMZ (unregistered), 1 female, TL 62 mm, Phuket, Thai–Danish Expedition; ZRC 1999.2195, 1 male, TL 49 mm, Phuket, Thai–Danish Expedition.

**Measurements**
Males (n = 2) TL 40–50 mm, female (n = 1) TL 62 mm.

**Remarks**
The series of C. gaillardi agrees well the type material in the MNHN, differing only in showing more variation in the degree of spination on the abdominal carinae: SM 6, IM (2)3–6, LT (2)3–6, MG 2–6.

**Distribution**
New Caledonia, the Philippines and for the first time from Phuket.

**Clorida rotundicauda** (Miers, 1880)


**Material examined**
USNM 173098, 1 male, TL 81 mm, Nam Bor Bay, Phuket, coll. D. Frith, 24.06.1977; USNM 173099, 1 male, TL 73 mm, Nam Bor Bay, Phuket, coll. D. Frith, 24.06.1977.

**Measurements**
Males (n = 2) TL 73–81 mm.

**Remarks**
These specimens were reported by Manning (1979). Both specimens were collected from
intertidal mudflat burrows in association with mangroves.

**Distribution**

China, Taiwan, Malaysia, Singapore and Phuket.

*Cloridina chlorida* (Brooks, 1886)

*Squilla chlorida* Brooks, 1886b: 21, 40, pl. 2, figs. 1–5 [type locality: Amboina, Indonesia, 3°43’S, 128°12’E, 27m].

*Clorida chlorida* – Naiyanetr, 1980: 43.


**Material examined**

PMBC 16058, 1 female, TL 55 mm, off Phuket, BIOSHELF St. I2, 07°30´N, 098°30´E, OS, 59 m, coll. S. Bussarawit and C. Aungtonya, 22.02.1998;

PMBC 16059, 1 male, TL 19 mm, off Phuket, BIOSHELF St. J1, 07°15´N, 099°04´E, OS, 39 m, coll. S. Bussarawit and C. Aungtonya, 23.02.1998.

**Measurements**

Male (*n* = 1) TL 19 mm, female (*n* = 1) TL 55 mm.

**Remarks**

The specimens agree well with published accounts (Brooks, 1886; Manning, 1968). The postanal carina is present in the 55 mm specimen but absent in the 19 mm specimen.

**Distribution**

Western Indian Ocean to the Gulf of Thailand, Vietnam and New Caledonia. A new record for Phuket.

*Cloridina ichneumon* (Fabricius, 1798)


**Material examined**


**Measurements**

Female (*n* = 1) TL 43 mm.

**Remarks**

The specimen agrees well with published accounts (*e.g.* Kemp, 1913; Tirmizi and Manning, 1968; Holthuis, 2000).

**Distribution**

Vietnam, New Caledonia to Gulf of Thailand and the Western Indian Ocean. A new record for Phuket.

*Cloridina pelamidae* (Blumstein, 1970)

*Clorida pelamidae* Blumstein, 1970: 220, figs. 2, 3 [type locality: Gulf of Tonkin, 20°20´N, 106°47´E].

*Clorida thailandica* Naiyanetr, 1980: 38, pl. 35 [type locality, Sichang Island, Chonburi Province, Thailand].

**Material examined**


**Measurements**

Males (*n* = 2) TL 47 mm.

**Remarks**

The specimens agree in most respects with published accounts. The 47 mm specimen bears five instead of four teeth on the dactylus of the raptorial claw. Both specimens in the present series were collected from sandy-mud substrates.
Distribution
Vietnam, the Gulf of Thailand, and now from Phuket.

**Cloridina verrucosa** (Hansen, 1926)

*Squilla microphthalma*.– Kemp and Chopra, 1921: 299 [part, not *S. microphthalma* H. Milne-Edwards, 1837].

*Squilla verrucosa* Hansen, 1926: 3, pl. 1: figs. 1a–d [type locality: Lesser Sunda Islands, Indonesia, 8°27´S, 122°54.5´E, by lectotype selection (Manning, 1976c)].

*Squilla microphthalma*.– Kemp and Chopra, 1921: 299–300 [Mergui Archipelago specimen, not *S. microphthalma* H. Milne-Edwards, 1837].


**Cloridina verrucosa**.– Naiyanetr, 1998: 126.

**Material examined**

PMBC 16061, 1 male, TL 21 mm, BIOSHELF St. G2, 08°00´N, 098°10´E, OS, 63 m, coll. S. Bussarawit and C. Aungtonya, 23.04.1996; PMBC 16062, 1 female, TL 12 mm, between Rocha Yai Island and Kaew Noi Island, 60 m, coll. G. Dineson, 27.11.1997; PMBC 16063, 1 female, TL 27 mm, BIOSHELF St. J2, 07°15´N, 98°51´E, OS, 61 m, coll. S. Bussarawit and C. Aungtonya, 04.05.1996; PMBC 16064, 1 female, TL 13 mm, BIOSHELF St. L1, 06°45´N, 099°21´E, OS, 38 m, coll. S. Bussarawit and C. Aungtonya, 06.05.1996; PMBC 16065, 1 female, broken; CL 3.6 mm, BIOSHELF St. B1, 09°14´N, 098°00´E, OS, 45 m, coll. S. Bussarawit and C. Aungtonya, 17.02.1998; PMBC 16066, 1 female, TL 14 mm, BIOSHELF St. I2, 07°30´N, 098°29´E, OS, 60 m, coll. S. Bussarawit and C. Aungtonya, 03.05.1996; PMBC 16067, 1 male, TL 11 mm, 1 female, TL 11 mm, BIOSHELF St. K1, 07°00´N, 099°24´E, OS, 45 m, mud and shell fragments, coll. S. Bussarawit and C. Aungtonya, 06.05.1996; PMBC 16068, 1 female postlarva, TL 10 mm, BIOSHELF St. L1, 06°46´N, 099°21´E, OS, 38 m, coll. S. Bussarawit and C. Aungtonya, 06.05.1996; PMBC 16069, 1 female, TL 13 mm, BIOSHELF St. I2, 07°30´N, 098°30´E, OS, 59 m, sandy–mud, coll. S. Bussarawit and C. Aungtonya, 22.02.1998; PMBC 16070, 1 female, TL 25 mm, Andaman Sea, BIOSHELF St. H2, 07°46´N, 098°16´E, OS, 40 m, coll. S. Bussarawit and C. Aungtonya, 20.02.1998; PMBC 16071, 2 males, TL 15–19 mm, BIOSHELF St. H1, 07°45´N, 098°16´E, OS, 31 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996; PMBC 16072, 2 males, TL 14–16 mm, 1 female, TL 14 mm, BIOSHELF St. J1, 07°15´N, 099°04´E, OS, 39 m, coll. S. Bussarawit and C. Aungtonya, 23.02.1998; AM P60572, 2 males, TL 23–25 mm, BIOSHELF St. K1, 07°00´N, 099°16´E, OS, 41 m, coll. S. Bussarawit and C. Aungtonya, 24.02.1998; AM P60574, 3 males, TL 12–13 mm, BIOSHELF St. L2, 06°44´N, 099°05´E, OS, 56 m, coll. S. Bussarawit and C. Aungtonya, 05.05.1996.

**Measurements**

Male (*n* = 11) TL 11–25 mm, female (*n* = 9) TL 11–27 mm, female postlarva (*n* = 1) TL 10 mm.

**Remarks**

The adults in the present series of *C. verrucosa* agree well with published accounts (Hansen, 1926; Manning, 1976). In the postlarva and 11 mm juveniles, the mandibular palp is undeveloped. Additionally, the anterolateral margins of the carapace are angular, but unarmed in the postlarva. *Cloridina verrucosa* was taken on sandy-mud or mud with shell fragments at depths of 21–60 m.

**Distribution**

Indonesia, the Philippines, New Caledonia, Vietnam, the Mergui Archipelago, and now from Phuket.

**Cloridopsis bengalensis** (Tiwari and Biswas, 1952)

*Squilla bengalensis* Tiwari and Biswas, 1952: 352, fig. 1b, c [type locality: Bay of Bengal].

Material examined
USNM 173097, 1 male, TL 106 mm, Nam Bor Bay, Phuket, Thailand, mangrove mud, coll. D. Frith, 24.06.1977.

Measurements
Male (n = 1) TL 106 mm.

Remarks
The present specimen was studied by Manning (1979).

Distribution
Bay of Bengal, India to Phuket, Thailand.

*Erugosquilla woodmasoni* (Kemp, 1911)


*Oratosquilla tweediei* Manning, 1971b: 11–14, fig. 4 [type locality: Singapore].

*Oratosquilla jakartensis* Moosa, 1975: 13–17, fig. 1 [type locality: Jakarta Bay, Indonesia].


Material examined

Measurements
Male (n = 14) TL 99–125 mm, female (n = 10) TL 66–129 mm.

Remarks
*Erugosquilla woodmasoni* was reported from Phuket by Dingle et al. (1977). The present specimens of *E. woodmasoni* exhibit morphological variation as described by Manning (1978d): the submedian carinae of AS4 may or may not be armed, and the lobe between the terminal spines of the uropodal protopod varies from low and rounded to pointed and angular. Around Phuket, *Erugosquilla woodmasoni* burrows in sandy-mud from the shoreline to a depth of at least 70 m.

Distribution
Western Indian Ocean to Thailand, Indonesia, Vietnam, the Philippines, Taiwan, Japan and Australia.

*Fallosquilla fallax* (Bouvier, 1914)


*Squilla ambigua* Hansen, 1926: 6, pl. 1: figs. 2a–e [type locality: east of Dangar Besar, Saleh-Bay, Indonesia, 8°26´S, 117°40´E].

*Clorida fallax.*– Naiyanetr, 1980: 43.


Material examined
PMBC 16077, 1 female, TL 50 mm, Andaman Sea, SW of Phuket, BIOSHELF St. PB7–6, 07°43–44´N, 098°36–40´E, trawl, 32 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998; PMBC 16078, 1 female, TL 20 mm, BIOSHELF St. PB7, 07°45´N, 098°41´E, box corer, 29 m, sand and shell fragments, coll. S. Bussarawit, 22.04.1997;

PMBC 16079, 1 female postlarva, TL 14 mm, BIOSHELF St. C1, 09°00´N, 098°03´E, BC, 40 m, muddy-sand and shell fragments, coll. S. Bussarawit and C. Aungtonya, 20.04.1996.

Measurements
Female (n = 2) TL 20–50 mm, female postlarva (n = 1) TL 14 mm.

Remarks
The two larger specimens agree well with published accounts (e.g. Manning, 1968; 1995). The postlarva differs from juveniles and adults in bearing a low median carina on the carapace and lacks anterolateral spines on the carapace. Postlarval *F. fallax* superficially resemble *Levisquilla incerta* (Hansen, 1926) and species of *Pontiosquilla* Manning, 1995, all of which lack anterolateral spines on the carapace. Naiyanetr’s (1998) record of *L. incerta* from the Andaman Sea is probably based on postlarval *F. fallax*; unfortunately, the specimen on which the record is based could not be located for restudy. *Fallosquilla fallax* was taken on muddy-sand at depths of 28.6–40.0 m.

Distribution
Indo-West Pacific from Mauritius and the Comoro Islands (Manning, 1968), the Red Sea (Holthuis, 1967), Indonesia (Hansen, 1926), Vietnam, to the Solomon Islands (Manning, 1995).

*Harpiosquilla annandalei* (Kemp, 1911)


*Harpiosquilla annandalei*.– Manning, 1969a: 5–9, pl. 27, figs. 1–3.– Naiyanetr, 1980: 42.

Material examined
PMBC 16080, 1 female, TL 98 mm, Phuket, fishing port, 40–80 m, coll. S. Chaitiamvong et al., 08.12.1998; PMBC 16081, 1 female, TL 21 mm, off Phuket, BIOSHELF St. L2, 06°44´N, 099°05´E, OS, 56 m, coll. S. Bussarawit and C. Aungtonya, 05.05.1996; AM P58281, 2 females, TL 103–107 mm, Andaman Sea off Phuket, Pichai fishing port, trawled, coll. S. and R. Ahyong, 24.11.1999.

Measurements
Female (n = 4) TL 21–107 mm.

Remarks
The present specimens of *H. annandalei* agree well with published accounts (Kemp, 1913; Manning, 1969a; 1995). Diagnostic characters for *H. annandalei* are fully developed by 21 mm: the TS8 sternal keel is pointed and inclined posteriorly, the submedian carinae on AS5 are armed posteriorly, and the apices of the submedian teeth of the telson are fixed. *Harpiosquilla annandalei* was trawled on muddy-sand at depths of 40–80 m.

Distribution
Japan, Taiwan and the South China Sea, to the western Indian Ocean (Manning 1995). A new record for Phuket.

*Harpiosquilla harpax* (de Haan, 1844)

*Squilla harpax* de Haan, 1844 (atlas): pl. 51, fig.1 [type locality: Japan]; 1849: 222 (text).– Tiwari and Biswas, 1952: 358, figs. 3b, d, f.


Material examined
PMBC16082, 1 male, TL 173 mm, 4 females, TL 135–172 mm, Phuket, fishing port, coll. P. Ng and P. Davie, Dec 1998; PMBC 16083, 1 female postlarva, TL 18 mm, BIOSHELF St. F1, 08°15´N, 098°03´E, OS, 43 m, coll. S. Bussarawit and C. Aungtonya, 16.02.1998; PMBC 16084, 1 male postlarva, TL 18 mm, BIOSHELF St. L2, 06°44´N, 099°04´E, TD, 59 m, coll. S. Bussarawit and C. Aungtonya, 25.02.1998; PMBC 16085, 1 male postlarva, TL 17 mm, BIOSHELF St. I1, 07°29´N, 098°56´E, TD, 40 m, coll. S. Bussarawit and C. Aungtonya, 03.05.1996; ZRC 1999.2080, 1 male,
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Measurements
Male \((n = 5)\) TL 107–173 mm, female \((n = 9)\) TL 110–172 mm, male postlarvae \((n = 2)\) TL 17–18 mm, female postlarva \((n = 1)\) TL 18 mm.

Remarks
Most specimens agree well with previous accounts (Tiwari and Biswas, 1952; Manning, 1969a; 1995). Variation is present in the relative lengths of the lateral carina of the telson, which varies from being less than one third to about half the length of the marginal carina. The 135 mm female, differs from ‘typical’ \(H.\) harpax in lacking an anterior projection on the rostral plate; it otherwise agrees well with other specimens and bears a lateral carina of the telson measuring about one third of the length of the marginal carina. The postlarval specimens bear a median carina on the rostral plate and movable apices of the submedian teeth of the telson, as in postlarval \(H.\) melanoura reported below. The present specimens of \(H.\) harpax were collected from soft substrates at depths of 39.6–59.0 m. Manning (1969a) reported a bathymetric range of 2–93 m for \(H.\) harpax.

Distribution
Widely distributed in the Indo-West Pacific, from the western Indian Ocean to Japan and Australia. A new record for Phuket.

\textit{Harpiosquilla melanoura} Manning, 1968

\textit{Harpiosquilla melanoura} Manning, 1968b: 14, 18–21, fig. 5 [type locality: Banc de Pracel, W coast of Madagascar 17°00’S, 43°30’E]; 1969a: 6, 21–25, figs. 18–27.

Material examined
PMBC 16086, 2 males, TL 60–71 mm, Andaman Sea, SW of Phuket, BIOSHELF St. PB7–6, 07°43–44’N, 098°36–40’E, trawl, 32 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998; PMBC 16087, 1 male, TL 42 mm, BIOSHELF St. A1, 09°30’N, 097°56’E, TD, 49 m, coll. S. Bussarawit and C. Aungtonya, 18.02.1998; AM P60566, 1 male, TL 140 mm, Phuket, fishing port, 40–80 m, coll. P. Ng et al., 08.12.1998.

Measurements
Male \((n = 4)\) TL 42–140 mm.

Remarks
Most specimens agree well with published accounts (Manning, 1968; 1969a; 1995). The 42 mm juvenile male differs from the adults in bearing a low median carina on the rostral plate, 9 instead of 8 teeth on the dactylus of the raptorial claw, and movable instead of fixed submedian teeth on the telson. The present specimens were trawled at depths between 32 and 40–80 m.

Distribution
Western Indian Ocean to Thailand, Vietnam and Australia. A new record for Phuket.

\textit{Lenisquilla lata} (Brooks, 1886)

\textit{Squilla lata} Brooks, 1886b: 21, 34–37, pl. 1: figs. 1–3 [type locality: Arafura Sea, 08°56’S, 136°05’E].– Kemp, 1913: 3, 10, 21, 37, pl. 2: fig. 24.

\textit{Squilloides latus spinosus} Blumstein, 1970: 223, figs. 4, 5 [type locality: Gulf of Tonkin, 17°48’N, 109°32’E].

\textit{Squilloides espinosus} Blumstein, 1974: 121, fig. 7 [type locality: Gulf of Tonkin, 18°00’N, 109°32’E].

Material examined
PMBC 16088, 1 female, TL 72 mm, BIOSHELF St. T1, 07°02’N, 098°49’E, TD, 76 m, sandy–mud, coll. S. Bussarawit and C. Aungtonya, 24.02.1998; AM P60569, 1 female, TL 82 mm, BIOSHELF St. T1, 07°02’N, 098°49’E, TD, 76 m, sandy–mud, coll. S. Bussarawit and C. Aungtonya, 24.02.1998.
Measurements
Female \((n = 2)\) TL 72–82 mm.

Remarks
Both specimens were collected from sandy-mud at a depth of 76 m.

Distribution
Japan, New Caledonia, and Australia to the western Indian Ocean; for the first time from Thailand.

**Levisquilla jurichi** (Makarov, 1979)

*Clorida jurichi* Makarov, 1979: 40, fig.1 [type locality: Tonkin Bay, Vietnam, 21°13.5´N, 109°45.8´E].

Material examined
PMBC 16089, 1 male, TL 14 mm, BIOSHELF St. A1, 09°30´N, 097°57´E, box corer, 43 m, sand with shell fragments, coll. S. Bussarawit and C. Aungtonya, 18.04.1996; PMBC 16090, 1 male, TL 17 mm, BIOSHELF St. K 20 m, 07°00´N, 099°24´E, box corer, 21 m, mud with shell fragments, coll. S. Bussarawit and C. Aungtonya, 06.05.1996; PMBC 16091, 1 male, TL 13 mm, BIOSHELF St. E 20 m, 08°30´N, 098°12´E, box corer, 21 m, coll. S. Bussarawit and C. Aungtonya, 22.04.1996.

Measurements
Male \((n = 3)\) TL 13–17 mm.

Remarks
The specimens agree well with published accounts (Makarov, 1979; Moosa, 1991). The petasma is well developed in the two larger specimens. The present series of *L. jurichi* were collected from mud or sand with shell fragments at depths of 20–43 m.

Distribution
Vietnam, New Caledonia and now from off Phuket.

**Miyakea nepa** (Latreille, 1828)


Material examined
PMBC 16092, 1 male, TL 85 mm, BIOSHELF St. H3, 07°45´N, 097°58´E, BC, 70 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996; PMBC 16093, 1 male, TL 77 mm, Andaman Sea, SW of Phuket, BIOSHELF St. PB7–6, 07°43–44´N, 098°36–40´E, trawl, 32 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998; PMBC 16094, 2 males, TL 81–88 mm, 3 females, TL 116–123 mm, Phuket, fishing port, coll. S. Chaitiamvong et al., Dec 1998; AM P58284, 1 male, TL 110 mm, 2 females, TL 72–140 mm, Andaman Sea off Phuket, Pichai fishing port, trawled, 30–40 m, coll. S. and R. Ahyong, 24.11.1999.

Measurements
Male \((n = 5)\) TL 77–110 mm, female \((n = 5)\) TL 72–140 mm.

Remarks
*Miyakea nepa* was trawled on sandy-mud at depths of 30–70 m.

Distribution
Western Indian Ocean to Thailand including Phuket, Vietnam, Taiwan, the Philippines, New Caledonia, French Polynesia, and Australia.

**Oratosquillina gonypetes** (Kemp, 1911)

*Squilla gonypetes* Kemp, 1911: 96 [type locality: restricted to vicinity of Cheduba Island, Burma, 18°48´N, 93°38´E, 13 m, by lectotype selection (Manning, 1978d)]; 1913: 3, 10, 22, 54, pl. 4, figs. 42–44 [part].– Kemp and Chopra, 1921: 300–301.
Oratosquilla gonypetes.—Manning, 1978d: 7, 12–14, fig. 5.—Naiyanetr, 1980: 43.


Material examined
PMBC 16095, 1 male, TL 23 mm, BIOSHELF St. PB6, 07°44´N, 098°33´E, TD, 34 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1996; PMBC 16096, 1 female, TL 23 mm, BIOSHELF St. C2, 09°00´N, 097°53´E, OS, 64 m, muddy-sand, coll. S. Bussarawit and C. Aungtonya, 20.04.1996; PMBC 16097, 1 female, TL 16 mm, BIOSHELF St. C3, 09°00´N, 097°43´E, BC, 79 m, sandy-mud, coll. S. Bussarawit and C. Aungtonya, 20.04.1996; PMBC 16098, 1 female, TL 15 mm, BIOSHELF St. I, 07°30´N, 099°01´E, BC, 21 m, mud, coll. S. Bussarawit and C. Aungtonya, 03.05.1996; PMBC 16099, 1 male, TL 19 mm, BIOSHELF St. I1, 07°30´N, 098°55´E, OS, 42 m, coll. S. Bussarawit and C. Aungtonya, 22.02.1998; PMBC 16100, 1 female, TL 24 mm, BIOSHELF St. L1, 07°49´N, 099°21´E, OS, 39 m, coll. S. Bussarawit and C. Aungtonya, 24.02.1998; PMBC 16101, 5 males, TL 38–63 mm, 9 females, TL 44–67 mm, Andaman Sea, SW of Phuket, BIOSHELF St. PB7–6, 07°43–44´N, 098°36–40´E, trawl, 32 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998; AM P60568, 2 females, TL 94–95 mm, Andaman Sea off Phuket, Pichai fishing port, trawled, coll. P. Ng, Dec 1999.

Measurements
Male (n = 3) TL 23–82 mm, female (n = 2) TL 94–95 mm, male postlarva (n = 1) TL 16 mm.

Remarks
The 16 mm postlarva lacks anterolateral spines on the carapace and the outer inferodistal spine on the merus of the raptorial claw is relatively undeveloped. Oratosquillina inornata constructs burrows in mudflats from the intertidal zone to at least 70 m depth. The species was reported from Phuket by Dingle et al. (1977).

Distribution
Australia and the eastern Indian Ocean, to Taiwan.

Oratosquillina inornata (Tate, 1883)

Squilla inornata Tate, 1883: 51, pl. 2 [type locality: Gulf of St. Vincent, South Australia, Australia].

Oratosquilla inornata.—Dingle et al., 1977: 10, fig. 5e–g.

Material examined
PMBC 16102, 1 male, TL 80 mm, BIOSHELF St. H3, 07°45´N, 097°58´E, BC, 70 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996; PMBC 16103, 1 male, TL 82 mm, Phuket, fishing port, 40–80 m, coll. S. Chaitiamvong et al., 08.12.1998; AM P58279, 2 females, TL 94–95 mm, Andaman Sea off Phuket, Pichai fishing port, trawled, coll. P. Ng, Dec 1999.

Measurements
Male (n = 3) TL 23–82 mm, female (n = 2) TL 94–95 mm, male postlarva (n = 1) TL 16 mm.

Remarks
The present series agree well with Manning’s (1978d) account of O. gonypetes. The apices of the dorsal processes of the antennular somite are acute, instead of rounded as mis-diagnosed by Manning (1995). Oratosquillina gonypetes was taken on mud or sand at depths of 20–79 m.

Distribution
Western Indian Ocean to the western Pacific. A new record for Phuket.

Oratosquillina inornata

Oratosquillina manningi Ahyong, Chan and Liao, 2000

Oratosquillina manningi Ahyong, Chan and Liao, 2000: 42–47, figs. 1, 2 [type locality: Tai-Shi, Northeast Taiwan].

Material examined
PMBC 16105, 1 male, TL 60 mm, Andaman Sea, SW of Phuket, BIOSHELF St. PB7–6, 07°43–44´N, 098°36–40´E, trawl, 32 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998; AM
P60567, 1 male, TL 71 mm, Andaman Sea, SW of Phuket, BIOSHELF St. PB7–6, 07°43–44´N, 098°36–40´E, trawl, 32 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998.

**Measurements**

Male (n = 2) TL 60–71 mm.

**Remarks**

The specimens agree well with type material. As with the type series of *O. manningi*, the present specimens were collected on a sandy-mud substrate, but at a shallower depth (32 m instead of 53–78 m).

**Distribution**

Taiwan, Australia and now the Andaman Sea.

*Oratosquillina ornata* (Manning, 1971)

*Oratosquillina ornata* Manning, 1971: 9, fig. 3 [type locality: Hong Kong, 21°53´N, 115°51´E].
*Oratosquilla vietnamica* Blumstein, 1974: 119, fig. 6 [type locality: Gulf of Tonkin, 18°00´N, 109°32´E].

**Material examined**

PMBC 16106, 1 male, TL 24 mm, BIOSHELF St. J2, 07°15´N, 098°48´E, OS, 63 m, coll. S. Bussarawit and C. Aungtonya, 23.02.1998; PMBC 16107, 1 female, TL 25 mm, BIOSHELF St. K2, 07°00´N, 099°04´E, OS, 53 m, coll. S. Bussarawit and C. Aungtonya, 24.02.1998.

**Measurements**

Male (n = 1) TL 24 mm, female (n = 1) TL 25 mm.

**Remarks**

The two juveniles agree in most respects with the type description of *O. ornata* (Manning, 1971). The petasma of the male is not fully developed, and the penes have not reached full length, but meet in the midline. The abdominal spination is as follows: SM 5–6, IM (2)4–6, LT (2)4–6, MG 1–5. Both specimens were taken on sandy-mud at depths of 53–63 m.

**Distribution**

South China Sea off Hong Kong, Vietnam and now from off Phuket, Thailand.

*Oratosquilla perpensa* (Kemp, 1911)

*Squilla oratoria var. perpensa* Kemp, 1911: 98 [part] [type locality: Hong Kong]; 1913: 70, pl. 5: figs. 57–59 [part].– Ghosh and Manning, 1988: 659.

**Material examined**

PMBC 16108, 6 males, TL 50–85 mm, 2 females, TL 84–87 mm, Phuket, fishing port, coll. S. Chaitiamvong et al., Dec 1998; PMBC 16109, 1 male, TL 84 mm, 1 female, TL 92 mm, BIOSHELF St. H3, 07°45´N, 097°58´E, BC, 70 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996; PMBC 16110, 1 male, TL 24 mm, 1 female, TL 29 mm, BIOSHELF St. H1, 07°45´N, 098°16´E, OS, 31 m, mud, coll. S. Bussarawit and C. Aungtonya, 09.05.1996; AM P58282, 2 males, TL 73–81 mm, 6 females, TL 80–90 mm, Andaman Sea off Phuket, Pichai fishing port, trawled, 30–40 m, sandy-mud, coll. S. and R. Ahyong, 24.12.1999; QM 25568, 1 male, TL 77 mm, 2 females, TL 81–82 mm, Phuket, fishing port, coll. P. Ng and P. Davie, Dec 1998; USNM 143575, 1 male, TL 64 mm, 1 female, TL 63 mm, off Irrawaddy delta, Burma, 15°20´N, 94°55´E, 37 m, *Investigator* (paralectotypes of *Squilla perpensa* Kemp, 1911).

**Measurements**

Male (n = 12) TL 24–85 mm, female (n = 13) TL 29–92 mm.

**Remarks**

The present series from Phuket agrees well with the account given by Manning (1978d) and the paralectotypes from Burma, although the length of the rostral plate is variable. *Oratosquillina perpensa* was taken on sandy-mud at depths between 30–40 m and 70 m.
**Oratosquillina quinquedentata** (Brooks, 1886)

*Squilla quinquedentata* Brooks, 1886: 21, 26, pl. 1: fig. 3, pl. 2: fig. 6 [type locality: Arafura Sea, 09°59’S, 139°42’E]. – Kemp, 1913: 52.


**Material examined**

PMBC 16111, 1 male, TL 82 mm, BIOSHELF St. H3, 07°45´N, 097°58´E, BC, 70 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996; PMBC 16112, 3 females, TL 98–124 mm, Phuket, fishing port, coll. P. Ng and P. Davie, Dec 1998; QM W25567, 1 male, TL 113 mm, Phuket, fishing port, coll. P. Ng and P. Davie, Dec 1998; ZRC 1999.2087, 1 male, TL 104 mm, 2 females, TL 95–114 mm, Andaman Sea, Thailand, coll. P. Ng, 24.08.1999; AM P58288, 1 male, TL 128 mm, Phuket, fish port, coll. P. Ng, Dec 1999.

**Measurements**

Male (*n* = 4) TL 82–128 mm, female (*n* = 5) TL 95–124 mm.

**Remarks**

Previously reported from Phuket by Dingle *et al.* (1977) from intertidal mudflats to a depth of 50 m. The present specimens were taken on sandy-mud to a depth of at least 70 m.

**Distribution**

The Gulf of Thailand and Andaman Sea to northern Australia.

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**Oratosquillina subtilis** (Manning, 1978)


**Material examined**

PMBC 16113, 1 male postlarva, TL 16 mm, between Hae Island and Maithon Island, BIOSHELF St. NBD, 07°44´N, 098°24´E, OS, 40 m, coarse sand, coll. N. Bruce and G. Dinesen, 09.12.1997; PMBC 16114, 1 male, TL 22 mm, 1 female, TL 20 mm, BIOSHELF St. H1, 07°45´N, 098°16´E, OS, 31 m, coll. S. Bussarawit and C. Aungtonya, 09.05.1996.

**Measurements**

Male (*n* = 2) TL 22 mm, female (*n* = 1) TL 20 mm, male postlarva (*n* = 1) TL 16 mm.

**Remarks**

The two larger specimens agree well with the type description (Manning, 1978d). The smallest specimen bears fewer armed abdominal carinae than adults (SM 6, IM 4–6, LT 4–6, MG 1–5) and the mandibular palp is present only as a short bud. The present specimens were collected from coarse sand or mud at depths of 31–40 m.

**Distribution**

New Caledonia, the Philippines, Indonesia, and Burma to India (Manning, 1995). A new record for Thailand.

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**Toshimitsu tiwarii** (Blumstein, 1974)

*Squilla costata.* – Kemp and Chopra, 1921: 303 [not *Squilla costata* de Haan].

*Squilla* sp. prox. *costata.* – Tiwari and Biswas, 1952: 354, fig. 2.


Material examined
PMBC 16115, 1 male, TL 21 mm, BIOSHELF St.
L1, 06°45´N, 099°21´E, BC, 38 m, sandy-mud,
coll. S. Bussarawit and C. Aungtonya, 06.05.1996.

Measurements
Male (n = 1) TL 21 mm.

Remarks
The single specimen was taken from sandy-
mud at a depth of 38 m.

Distribution
Vietnam, the Philippines, Indonesia, Burma,
and now Phuket.

DISCUSSION

Eighty-one species of stomatopods are now
known from the Andaman Sea in 11 families and
five superfamilies. Eleven species reported herein
represent new records for the entire Andaman Sea.
Forty-eight species of stomatopods are now
known from Phuket, of which 26 are new records
based on Naiyanetr (1998). Consequently, the
results of this study increase the known
stomatopod fauna of the Andaman Sea by 16%
and that of Phuket by 118%. Eight species
represented here are new records for the
Indian Ocean, namely Faughnia formosae,
Gonodactylellus annularis, Oratosquillina
manningi, O. ornata, Levisquilla jurichi,
Clorida gaillardi, Cloridina pelamidae, and
Coronidopsis serenei.

Manning (1989) reported 132 species from
the Indian Ocean. Since 1989, only four additional
species have been described from the Indian
Ocean (Manning, 1990a; 1990b; Ahyong, 1998).
Hence, the stomatopod fauna of the Andaman Sea
represents a substantial proportion of the known
Indian Ocean fauna—almost 60%.

Most species reported herein were collected
via trawling on soft substrates. Consequently,
squilloids dominated samples. The largest
proportion of new records for Phuket (20 of 28)
are squilloids and these were collected by trawl or
dredge. Relatively little collecting effort in coral-
reef environments around Phuket accounts for the
smaller proportion of gonodactyloids collected.
The large increase in the known fauna as the result
the limited sampling conducted for present study
suggests that the stomatopod fauna is not yet well
characterized. Moreover, the fact that several
species newly reported from the Indian Ocean also
represent significant range extensions suggest that
intermediate localities are also poorly sampled.
Particular attention should be paid to the coral-
reef stomatopods which are generally smaller and
more difficult to collect than species living on soft
substrates.

Checklist of Stomatopoda known from the
Andaman Sea.

The checklist below includes all stomatopod
species known from the Andaman Sea. New
records for Phuket are indicated *, and new
records for both Phuket and the Andaman Sea are
indicated**. Moosa (1986) synonymized
Chorisquilla andamanica Manning, 1975, with C.
excavata (Miers, 1880) based on similar telson
morphology. Chorisquilla andamanica, however,
is a distinct species and differs from C. excavata
in lacking posterolateral spines on AS6. Naiyanetr’s
(1998) record of C. excavata from the Andaman
Sea is based on C. andamanica. Mesacturotoides
brevisquamatus (Paulson, 1875) is included in the
fauna of the Andaman Sea following Kemp (1913),
but as noted by Manning (1962), the record is
probably based on M. fimbriatus (Lenz, 1905).
Eurysquilloidea Manning, 1977

Eurysquillidae Manning, 1977


**Coronidopsis serenei** (Moosa, 1973). Off Phuket (present record).


Manningia pilaensis (de Man, 1888). Elphinstone Island, Mergui Archipelago (de Man, 1888b; Kemp, 1913).

Gonodactyloidea Giesbrecht, 1910

Gonodactylidae Giesbrecht, 1910

Gonodactylaceus falcatus (Forskål, 1775). Kemp (1913); Phuket (Dingle *et al*., 1977; Naiyanetr, 1998); Andaman Sea (Naiyanetr, 1980).


Gonodactylellus affinis (de Man, 1902). Phuket (Dingle *et al*., 1977; Naiyanetr, 1998); Andaman Sea (Naiyanetr, 1998); Racha Noi Island, off Phuket (present record).


Gonodactylus acutirostris de Man, 1889. Mergui Archipelago (de Man, 1898).

Gonodactylus chiragra (Fabricius, 1781). Mergui Archipelago (de Man, 1888b); Phuket (Dingle *et al*., 1977; Naiyanetr, 1998, present record); Andaman Sea (Naiyanetr, 1980); Hnai Island, Satun, Andaman Sea (present record).

Gonodactylus platysoma Wood-Mason, 1895. Port Blair, Andaman Islands (Wood-Mason, 1895; Kemp, 1913); Phuket (Dingle *et al*., 1977; Naiyanetr, 1998); Andaman Sea (Naiyanetr, 1980).

Gonodactylus smithii Pocock, 1893. Phuket (Dingle *et al*., 1977; Naiyanetr, 1998); Andaman Sea (Naiyanetr, 1980); Sak Island, Andaman Sea (present record).

Odontodactylidae Manning, 1980

Odontodactylus brevirostris (Miers, 1884). Andaman Islands (Kemp, 1913; Ghosh and Manning, 1988)

**Odontodactylus japonicus** (de Haan, 1844). Off Phuket (present record).


**Raoulius cultrifer** (White, 1851). Off Phuket (present record).

Protosquillidae Manning, 1980

Chorisquilla andamanica Manning, 1975. Andaman Islands (Kemp, 1913; Manning, 1969c, 1975; Ghosh and Manning, 1988).
Chorisquilla gyrosa (Odhner, 1923). Brooksabad, Andaman Islands (Kemp, 1913; Manning, 1969c).
Chorisquilla spinosissima (Pfeffer, 1888). Port Blair, Andaman Islands (Kemp and Chopra, 1921).
Haptosquilla glabra (Lenz, 1905). Great Coco Island, Andaman Islands (Kemp, 1913); Camorta Island (Chopra, 1934); Ross Island, Andaman Islands (Tiwari and Biswas, 1952).
Haptosquilla glyptocercus (Wood-Mason, 1875). Great Coco Island, N Andamans, Kabusa Island, Mergui Archipelago, Kemp (1913); Port Blair, Andaman Islands (Kemp and Chopra, 1921; Manning, 1969c); Nancouri Harbour, Andaman Islands (Tiwari and Biswas, 1952); Phuket (Dingle et al., 1977; Naiyanetr, 1998; present record); Andaman Sea (Naiyanetr, 1980).
Haptosquilla pulchella (Miers, 1880). Camorta Island, Nicobars (Chopra, 1934); Phuket (Naiyanetr, 1998).
Haptosquilla tuberosa (Pocock, 1893). Andaman Islands (Kemp, 1911, 1913; Manning, 1969c; Ghosh and Manning, 1988); Nicobar Islands (Chopra, 1934; Manning, 1969c); off Phuket (present record).

Pseudosquillidae Manning, 1977

Pseudosquilla ciliata (Fabricius, 1787). Andaman Islands (Kemp, 1913); Outram Island, Nicobars (Chopra, 1934); Phuket (Dingle et al., 1977; Naiyanetr, 1998; present record); Andaman Sea (Naiyanetr, 1980).

Takuidae Manning, 1995

Mesacturoides brevisquamatus (Lenz, 1905). Mergui (Kemp, 1913).

Lysiosquilloidea Giesbrecht, 1910

Lysiosquillidae Giesbrecht, 1910

Lysiosquilla sulcirostris Kemp, 1913. Andaman Islands (Kemp, 1913).
Lysiosquilla tredecimdentata Holthuis, 1941. Andaman Islands (Manning, 1978b), Andaman Sea (Naiyanetr, 1980); Phuket (Dingle et al., 1977; Naiyanetr, 1998; present record).
Lysiosquilla maculata (Fabricius, 1793). Nicobar Islands, Andaman Islands (Kemp, 1913, part); Phuket, Phangnga (Naiyanetr, 1998).

Nannosquillidae Manning, 1980

Acanthosquilla multifasciata (Wood-Mason, 1895). Phuket (Dingle et al., 1977; Naiyanetr, 1998); Andaman Sea (Naiyanetr, 1980).
**Acanthosquilla phalangium (Fabricius, 1768). Port Blair, Andamans (Kemp, 1913, as Lysiosquilla acanthocarpus (Claus)); Naiyang Beach, Phuket (present record).
Acanthosquilla tigrina (Nobili, 1903). Andaman Sea (Naiyanetr, 1980); Naiyang Beach, Phuket (present record).
**Tetrasquillidae** Manning and Camp, 1993

*Heterosquilloides insignis* (Kemp, 1911). Off North Andaman Island (Kemp, 1911, 1913; Ghosh and Manning, 1988).

**Parasquilloidea** Manning, 1995

**Parasquillidae** Manning, 1995

**Faughnia formosae** Manning and Chan 1997. Off Phuket (present record).

**Squilloidea** Latreille, 1802

**Squillidae** Latreille, 1802

*Ariasquilla indica* (Hansen, 1926). Octavia Bay, Nancoury harbour, Nicobars (Chopra, 1934).

*Anchisquilla fasciata* (de Haan, 1844). Andaman Islands, Mergui Archipelago (Kemp, 1913); Andaman Sea (Naiyanetr, 1980); Satun, Andaman Sea (Naiyanetr, 1998); off Phuket (present record).

*Busquilla quadraticauda* (Fukuda, 1911). Gulf of Martaban (Kemp, 1911, 1913, as *Squilla boops* Kemp)


*Carinosquilla spinosa* sp.nov. Off Phuket (present record).

*Clorida decorata* Wood-Mason, 1895. Port Blair, Andaman Islands (Wood-Mason, 1895; Kemp, 1913; Ghosh and Manning, 1988); off Irrawaddy Delta and Ye River entrance, lower Burma (Kemp, 1913); Jack and Una Island, Mergui Archipelago (Kemp and Chopra, 1921).

**Clorida gaillardii** Moosa, 1986. Off Phuket (present record).


*Clorida rotundicauda* (Miers, 1880). Andaman Sea (Naiyanetr, 1980); Nam Bor Bay, Phuket (Manning, 1979).


**Cloridina pelamidae** (Blumstein, 1970). Off Phuket (present record).

*Cloridina verrucosa* (Hansen, 1926). Mergui Archipelago (Tiwari and Biswas, 1952; Ghosh and Manning, 1988; as *C. merguiensis* Tiwari and Biswas); Andaman Sea (Naiyanetr, 1980, as *C. merguiensis* Tiwari and Biswas, 1998); off Phuket (present record).


*Dictyosquilla oveolata* (Wood-Mason, 1895). Ye River entrance and off Amherst Island, Burma (Kemp, 1913).

*Eringosquilla woodmasoni* (Kemp, 1911). Andaman Sea (Naiyanetr, 1980); Phuket, Krabi (Naiyanetr, 1998); off Phuket (Dingle *et al.*, 1977, present record).

**Harpiosquilla annandalei** (Kemp, 1911). Gulf of Martaban (Kemp, 1911, 1913); Mergui Archipelago (Manning, 1969a); NNE of Kabusa Island, Mergui Archipelago (Kemp and Chopra, 1921); Andaman Sea (Naiyanetr, 1980); off Phuket (present record).

**Harpiosquilla harpax** (de Haan, 1844). Andaman Sea (Naiyanetr, 1980); Kantang, Trang, Satun, Andaman Sea (Naiyanetr, 1998); off Phuket (present record).


**Harpiosquilla melanoura** Manning, 1968. Mergui Archipelago and off Burma (Manning, 1969a); off Phuket (present record).

**Harpiosquilla raphidea** (Fabricius, 1798). Port Blair, Andaman Islands, Mergui Archipelago (de Man, 1888b; Kemp, 1913); Andaman Sea (Naiyanetr, 1980); Satun, Ranong (Naiyanetr, 1998).

**Lenisquilla lata** (Brooks, 1886). Gulf of Martaban (Kemp, 1913); off Phuket (present record).

**Leptosquilla schmelzi**i (A. Milne-Edwards, 1873). Port Blair, Andaman Islands (Kemp, 1913).

**Levisquilla incerta** (Hansen, 1926). Andaman Sea (Naiyanetr, 1998) (but see remarks under account of *Fallosquilla fallax*).


**Levisquilla jurichi** (Makarov, 1979). Off Phuket (present record).

**Miyakea nepa** (Latreille, 1828). King Island Bay, Mergui Archipelago (de Man, 1888b); Andaman Sea (Naiyanetr, 1980); Satun, Phuket, Krabi, Andaman Sea (Naiyanetr, 1998); off Phuket (present record).

**Oratosquillina gonyopes** (Kemp, 1911). Andaman Islands (Kemp, 1911, 1913; Ghosh and Manning, 1988); Andaman Sea (Naiyanetr, 1980, 1998); off Phuket (present record).


**Oratosquillina inornata** (Tate, 1883). Off Phuket (Dingle et al., 1977; present record).


**Oratosquillina ornata** (Manning, 1971). Off Phuket (present record).

**Oratosquillina perpensa** (Kemp, 1911). Mergui Archipelago; Port Blair, Andaman Islands; off Irrawaddy Delta, Burma (Kemp, 1913; Manning, 1978d; Ghosh and Manning, 1988); Andaman Sea (Naiyanetr, 1980, 1998); off Phuket (present record).


**Oratosquillina subtilis** (Manning, 1978). Off Phuket (present record); off Kabusa Island, Burma (Manning, 1978d; Ghosh and Manning, 1988).

**Squilloides leptosquilla** (Brooks, 1886). NW of Andamans, S of Port Blair, Andaman Islands (Kemp, 1913).

**Squilloides tenuispinis** (Wood-Mason, in Wood-Mason and Alcock, 1891). Off Andaman Islands (Wood-Mason and Alcock, 1891; Kemp, 1913).

**Toshimitsu tiwarii** (Blumstein, 1974). NNE of Kabusa Island, Mergui Archipelago (Kemp and Chopra, 1921, as *Squilla costata* de Haan; Ghosh and Manning, 1988); off Phuket (present record).

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